

Remarks

Reconsideration of the application is respectfully requested in view of the following remarks. Claims 1-53 are pending in the application. No claims have been allowed. Claims 1, 3, 5, 9, 12, 14, 18, 22, 25, 27, 31, 35, 38, 40, and 41 are independent.

Patentability of Claims 1-53 over Ishikawa under § 102(e)

Claims 1-53 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,457,165 to Ishikawa et al. ("Ishikawa"). These rejections are respectfully traversed.

Applicant respectfully submits that the claims in their present form are allowable over Ishikawa. For a 102(e) rejection to be proper, the cited art must show each and every element as set forth in the claim (*see* MPEP § 2131.01). Ishikawa does not so show.

a. Claims 1, 2, 4, 14-17, 27-30, and 42-51

Independent claims 1, 14, and 27 require: "generating symbols and connections formed according to the netlist and at least in part according to connectivity strength between at least a first symbol and a second symbol."

Ishikawa fails to teach or suggest anything related to connectivity strength, much less generating symbols and connections formed according to the netlist and at least in part according to connectivity strength between at least a first symbol and a second symbol, as recited in independent claims 1, 14, and 27. Ishikawa teaches against considering connectivity strength between symbols because Ishikawa is understood to concern itself only with wiring information that concerns what a wiring harness itself will be connected to and specific attributes of wires of the wiring harness. For example, FIG. 4 (as noted in the Action) includes the inputting of wiring

information, which “includes, for example, auxiliary unit information on a plurality of **auxiliary units** (such as an ABS, a lamp, an electronic control unit (ECU), etc.) **to be connected to a wiring harness, terminal information** on a plurality of terminals of the plurality of auxiliary units, **wire information attributes (a kind of wire, a wire diameter, color, etc.)** of a plurality of wires to be connected between the plurality of auxiliary units, etc.” (see col. 6, lines 42-49, emphasis added). Thus, Ishikawa is understood to not take into account anything relating to connectivity strength between symbols in any symbol or connection generation.

Furthermore, FIG. 10 (as noted in the Action) shows an example of a route drawing prepared on a screen. The discussion of the preparation of the route drawing includes the connection of passing points (see col. 8, lines 51-67). Ishikawa continues by discussing the use of route information, which includes the route and length of harness for each passing point (see FIG. 6). Ishikawa also discusses wire-connection between auxiliary units, which includes minimizing the length of wires between certain auxiliary units (see col. 9, lines 34-56). Again, however, Ishikawa is understood to not take into account anything relating to connectivity strength between symbols in any symbol or connection generation.

Therefore, Ishikawa fails to teach or suggest "generating symbols and connections formed according to the netlist and at least in part according to connectivity strength between at least a first symbol and a second symbol," as recited in independent claims 1, 14, and 27. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejections be withdrawn from independent claims 1, 14, and 27.

Dependent claims 2, 4, and 42-51; 15-17; and 28-30 depend from independent claims 1, 14, and 27, respectively, and are allowable for at least the reasons recited above in support of

their parent claims 1, 14, and 27. They are also independently patentable. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 2, 4, 15-17, 28-30, and 42-51 should be withdrawn.

b. Claim 3

Independent claim 3 requires: "wherein generating the wiring harness diagram comprises positioning a pin on a side of a first symbol, the side selected according to a connection between the first symbol and a second symbol."

Ishikawa fails to teach or disclose anything having to do with selecting a side according to a connection between a first symbol and a second symbol, much less positioning a pin on a side of a first symbol, the side selected according to a connection between the first symbol and a second symbol, as recited in independent claim 3. Ishikawa is understood to concern itself with selecting routes to minimize wire lengths between auxiliary units (see col. 9, lines 45-56), but there is no mention of selecting sides of symbols, much less according to a connection between the symbols.

Therefore, Ishikawa fails to teach or suggest "positioning a pin on a side of a first symbol, the side selected according to a connection between the first symbol and a second symbol," as recited in independent claim 3. Accordingly, the 35 U.S.C. § 102(e) rejection of independent claim 3 should be withdrawn.

c. Claims 5-8, 18-21, 31-34, 52, and 53

Independent claims 5, 18, and 31 require: "sequencing symbol placement in a wiring harness layout at least in part according to the connectivity strength of at least one pair of

symbols" and "generating a wiring harness diagram for at least one bundle according to the wiring harness layout, wherein the bundle comprises a plurality of wires."

Ishikawa fails to teach or suggest anything related to connectivity strength, much less sequencing symbol placement in a wiring harness layout at least in part according to the connectivity strength of at least one pair of symbols, as recited in independent claims 5, 18, and 31. Ishikawa teaches against considering connectivity strength between symbols because Ishikawa is understood to concern itself only with wiring information that concerns what a wiring harness itself will be connected to and specific attributes of wires of the wiring harness. For example, FIG. 4 (as noted in the Action) includes the inputting of wiring information, which "includes, for example, auxiliary unit information on a plurality of **auxiliary units** (such as an ABS, a lamp, an electronic control unit (ECU), etc.) **to be connected to a wiring harness**, **terminal information** on a plurality of terminals of the plurality of auxiliary units, **wire information attributes (a kind of wire, a wire diameter, color, etc.)** of a plurality of wires to be connected between the plurality of auxiliary units, etc." (see col. 6, lines 42-49, emphasis added). Thus, Ishikawa is understood to not take into account anything relating to connectivity strength between symbols in any symbol placement sequencing.

Furthermore, FIG. 10 (as noted in the Action) shows an example of a route drawing prepared on a screen. The discussion of the preparation of the route drawing includes the connection of passing points (see col. 8, lines 51-67). Ishikawa continues by discussing the use of route information, which includes the route and length of harness for each passing point (see FIG. 6). Ishikawa also discusses wire-connection between auxiliary units, which includes minimizing the length of wires between certain auxiliary units (see col. 9, lines 34-56). Again,

however, Ishikawa is understood to not take into account anything relating to connectivity strength between symbols in any symbol placement sequencing.

Therefore, Ishikawa fails to teach or suggest "sequencing symbol placement in a wiring harness layout at least in part according to the connectivity strength of at least one pair of symbols," as recited in independent claims 5, 18, and 31. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejections be withdrawn from independent claims 5, 18, and 31.

Dependent claims 6-8, 52, and 53; 19-21; and 32-34 depend from independent claims 5, 18, and 31, respectively, and are allowable for at least the reasons recited above in support of their parent claims 5, 18, and 31. They are also independently patentable. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 6-8, 19-21, 32-34, 52, and 53 should be withdrawn.

d. Claims 9-11, 22-24, and 35-37

Independent claims 9, 22, and 35 require: "sequencing symbol placement in a wiring harness layout for at least one bundle comprising signal-carriers, at least in part according to the connectivity strength of at least one pair of symbols" and "selecting a side of a first symbol on which to place a pin to increase the directness of connectivity between the first symbol and a second symbol."

Ishikawa fails to teach or suggest anything related to connectivity strength, much less sequencing symbol placement in a wiring harness layout for at least one bundle comprising signal-carriers, at least in part according to the connectivity strength of at least one pair of symbols, as recited in independent claims 9, 22, and 35. Ishikawa teaches against considering connectivity strength between symbols because Ishikawa is understood to concern itself only

with wiring information that concerns what a wiring harness itself will be connected to and specific attributes of wires of the wiring harness. For example, FIG. 4 (as noted in the Action) includes the inputting of wiring information, which “includes, for example, auxiliary unit information on a plurality of **auxiliary units** (such as an ABS, a lamp, an electronic control unit (ECU), etc.) **to be connected to a wiring harness**, **terminal information** on a plurality of terminals of the plurality of auxiliary units, **wire information attributes (a kind of wire, a wire diameter, color, etc.)** of a plurality of wires to be connected between the plurality of auxiliary units, etc.” (see col. 6, lines 42-49, emphasis added). Thus, Ishikawa is understood to not take into account anything relating to connectivity strength between symbols in any symbol placement sequencing.

Furthermore, FIG. 10 (as noted in the Action), shows an example of a route drawing prepared on a screen. The discussion of the preparation of the route drawing includes the connection of passing points (see col. 8, lines 51-67). Ishikawa continues by discussing the use of route information, which includes the route and length of harness for each passing point (see FIG. 6). Ishikawa also wire-connection between auxiliary units, which includes minimizing the length of wires between certain auxiliary units (see col. 9, lines 34-56). Again, Ishikawa is understood to not take into account anything relating to connectivity strength between symbols in any symbol placement sequencing.

Therefore, Ishikawa fails to teach or suggest "sequencing symbol placement in a wiring harness layout for at least one bundle comprising signal-carriers, at least in part according to the connectivity strength of at least one pair of symbols," as recited in independent claims 9, 22, and 35. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejections be withdrawn from independent claims 9, 22, and 35.

Additionally, Ishikawa fails to teach or disclose anything having to do with selecting a side according to a connection between a first symbol and a second symbol, much less selecting a side of a first symbol on which to place a pin to increase the directness of connectivity between the first symbol and a second symbol, as recited in independent claims 9, 22, and 35. Ishikawa is understood to concern itself with selecting routes to minimize wire lengths between auxiliary units (see col. 9, lines 45-56), but there is no mention of selecting sides of symbols, much less according to a connection between the symbols.

Therefore, Ishikawa fails to teach or suggest "selecting a side of a first symbol on which to place a pin to increase the directness of connectivity between the first symbol and a second symbol," as recited in claims 9, 22, and 35. Accordingly, the 35 U.S.C. § 102(e) rejections of independent claims 9, 22, and 35 should be withdrawn.

Dependent claims 10-11, 23-24, and 36-37 depend from independent claims 9, 22, and 35, respectively, and are allowable for at least the reasons recited above in support of their parent claims 9, 22, and 35. They are also independently patentable. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 10-11, 23-24, and 36-37 should be withdrawn.

e. Claims 12-13, 25-26, and 38-39

Independent claims 12, 25, and 38 require: "when there is at least one predefined symbol in the netlist, selecting as the next pair of symbols a pair of symbols having the highest connection strength and comprising a predefined symbol."

Ishikawa fails to teach or suggest anything related to connection strength, much less selecting as the next pair of symbols a pair of symbols having the highest connection strength and comprising a predefined symbol, as recited in independent claims 12, 25, and 38. Ishikawa

teaches against considering connection strength between symbols because Ishikawa is understood to concern itself only with wiring information that concerns what a wiring harness itself will be connected to and specific attributes of wires of the wiring harness. For example, FIG. 4 (as noted in the Action) includes the inputting of wiring information, which “includes, for example, auxiliary unit information on a plurality of **auxiliary units** (such as an ABS, a lamp, an electronic control unit (ECU), etc.) **to be connected to a wiring harness, terminal information** on a plurality of terminals of the plurality of auxiliary units, **wire information attributes (a kind of wire, a wire diameter, color, etc.)** of a plurality of wires to be connected between the plurality of auxiliary units, etc.” (see col. 6, lines 42-49, emphasis added). Thus, Ishikawa is understood to not take into account anything relating to connection strength in any selecting of symbol pairs.

Furthermore, FIG. 10 (as noted in the Action), shows an example of a route drawing prepared on a screen. The discussion of the preparation of the route drawing includes the connection of passing points (see col. 8, lines 51-67). Ishikawa continues by discussing the use of route information, which includes the route and length of harness for each passing point (see FIG. 6). Ishikawa also wire-connection between auxiliary units, which includes minimizing the length of wires between certain auxiliary units (see col. 9, lines 34-56). Again, Ishikawa is understood to not take into account anything relating to connection strength in any selecting of symbol pairs.

Therefore, Ishikawa fails to teach or suggest "selecting as the next pair of symbols a pair of symbols having the highest connection strength and comprising a predefined symbol," as recited in independent claims 12, 25, and 38. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejections be withdrawn from independent claims 12, 25, and 38.

Dependent claims 13, 26, and 39 depend from independent claims 12, 25, and 38, respectively, and are allowable for at least the reasons recited above in support of their parent claims 12, 25, and 38. They are also independently patentable. Accordingly, the 35 U.S.C. § 102(e) rejections of claim 13, 26, and 39 should be withdrawn.

f. Claims 40 and 41

Independent claims 40 and 41 disclose carrier waves. Ishikawa is understood to not disclose anything having to do with carrier waves. Therefore, Ishikawa fails to teach or suggest carrier waves such as those recited in independent claims 40 and 41. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejection be withdrawn from independent claims 40 and 41.

V. Request for Examiner Interview

If any issues remain, the Examiner is formally requested to contact the undersigned attorney prior to issuance of the next Office Action in order to arrange a telephonic interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution. Applicants submit the foregoing formal Amendment so that the Examiner may fully evaluate Applicants' position, thereby enabling the interview to be more focused.

This request is being submitted under MPEP § 713.01, which indicates that an interview may be arranged in advance by a written request.

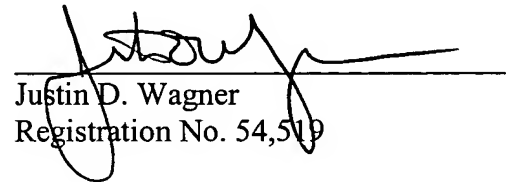
VI. Conclusion

The present application is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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